APPENDIX K: OBPR Research Merit Criteria

The proposed OBPR research merit criteria are as follows:

- **Scientific Importance**
  - Are the key scientific questions addressed by the specific research important?
  - Does the research represent a groundbreaking advance or is it incremental relative to the current state-of-the-art?
  - Is there a potential for insight into previously unknown phenomena, processes, or interactions?
  - Is the research a significant contribution to timely issues, or just buzzword compliant?
  - Will the research provide powerful new techniques for observing nature?
  - Will the research answer fundamental questions or stimulate theoretical understanding of fundamental processes or structures?
  - Is there potential for an important advance in knowledge or understanding in areas at the boundaries between disciplines?
  - Is this research going to help develop the future generation of scientists?

- **Impact to Broad Scientific and Technological Community**
  - Will the research have significant benefits/applications to ground-based as well as space-based operations involving the basic disciplines or cross-disciplinary interactions?
  - Will the results have broad usefulness, leading to further theoretical, experimental, or commercial and technological developments that have application beyond the particular initiative?
  - Will the research help demonstrate the benefit of using the environment of space to further the advancement of knowledge or to enhance products and services on Earth?
  - Is there a potential for stimulation of future technological "spin-offs"?
  - Will the value of the product if or when it is realized in an application be timely?
  - Will the research stimulate integration or combination of now separate concepts or information?
  - Will the research results be applicable or beneficial to an area not immediately related to the field of research?
  - What is the impact on existing international agreements?
  - Is there potential for economic impact?

- **Relevant to NASA's Mission**
  - Will the research substantially contribute to the health, safety, and performance of humans living and working in space?
  - Will the research enhance ISS productivity?
  - Is the space environment of fundamental importance to the research, either in terms of unmasking effects hidden under normal gravity conditions or in terms of using gravity level as an added independent parameter, or in providing access to conditions not available on Earth?
  - Will the research substantially contribute to the safety and effectiveness of robotic

exploration missions?
- Does the research require a NASA-unique ground-based facility or expertise?
- Does the research advance and communicate scientific knowledge and understanding of the Earth, the solar system, or the universe?
- Does the research expand advanced aeronautics, space science, or space technology?
- Does this research support NASA's goal to foster the commercial use of space?

- **Contributions to National Goals**
  - Will the research contribute to national pride and to the image of the United States as a scientific and technological leader because of the magnitude of the challenge, the excitement of the endeavor, or the nature of the results?
  - Will the research contribute to education by generating student interest in science or by attracting students to science and engineering?
  - Will the research aid in the fostering of commercialization of space?
  - Will the research present opportunities for cooperation with external organizations including international partners?
  - Will the research engage and involve the public in research in space?
  - Will the research contribute to public understanding of the natural world and appreciation of the goals and achievements of science?
  - Will the research benefit the economic health of this nation?